(19) World Intellectual Property Organization

International Bureau



(43) International Publication Date 8 January 2004 (08.01.2004)

PCT

(10) International Publication Number WO 2004/003150 A3

(51) International Patent Classification⁷: 33/567, C07K 14/00, 16/00

G01N 33/53,

114 33/33,

(21) International Application Number:

PCT/US2003/020147

(22) International Filing Date: 26 June 2003 (26.06.2003)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data: 60/392,062

26 June 2002 (26.06.2002) US

(63) Related by continuation (CON) or continuation-in-part (CIP) to earlier application:

US

60/392,062 (CON)

Filed on

26 June 2002 (26.06.2002)

(71) Applicant (for all designated States except US): YALE UNIVERSITY [US/US]; 433 Temple Street, New Haven, CT 06511 (US).

(72) Inventors; and

 (75) Inventors/Applicants (for US only): STRITTMATTER, Stephen [US/US]; 96 Tulip Lee Drive, Guilford, CT 06437 (US). MUELLER, Bernhard [DE/DE]; Landhausstrasse
 3, 721444 Dusslingen (DE). DEITINGHOFF, Lutz [DE/DE]; Danziger Strasse 21, 72072 Tubingen (DE). (74) Agent: MILLER, Scott, D.; Mintz, Levin, Cohn, Ferris, Glovsky and Popeo, PC, 666 Third Avenue, New York, NY 10017 (US).

(81) Designated States (national): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(84) Designated States (regional): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

— with international search report

 before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments

(88) Date of publication of the international search report:

26 August 2004

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: MODULATORS AND MODULATION OF THE INTERACTON BETWEEN RGM AND NEOGENIN

(57) Abstract: This invention relates to drug screening using mammalian repulsive guidance molecules and mammalian Neogenin. In addition, the invention provides for methods of preventing, alleviating or treating various disorders of the nervous system, angiogenic disorders or disorders of the cardio-vascular system and malignancies of different etiology by disrupting the interaction between RGM and Neogenin.







International application No.

PCT/US03/20147

| A. CLASSIFICATION OF SUBJECT MATTER | | | | | |
|---|---|---|---|---|--|
| IPC(7) : G01N 33/53, 33/567; C07K 14/00; 16/00 | | | | | |
| US CL: 435/7.1, 7.21; 530/350, 387.9 According to International Patent Classification (IPC) or to both national classification and IPC | | | | | |
| | | | | | |
| | | | | | |
| Minimum documentation searched (classification system followed by classification symbols) U.S.: 435/7.1, 7.21; 530/350, 387.9 | | | | | |
| Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched | | | | | |
| Electronic data base consulted during the international search (name of data base and, where practicable, search terms used) STN, EAST; search terms: neogenin, RGM | | | | | |
| C. DOCUMENTS CONSIDERED TO BE RELEVANT Citation of decument with indication, where appropriate, of the relevant passages Relevant to claim No. | | | | | |
| Category * Citation | gory * Citation of document, with indication, where appropriate, of the relevant passages | | | | |
| Y VIRI METT | VIRI METTER I et al. Neogenin, an Avian cell Surface Polypeptide Expressed during | | | | |
| Terminal Neuronal Differentiation, Is Closely Related to the Human Tumor Suppressor Molecule Deleted in Colorectal Cancer. J. Cell. Bio. December 1994, Vol. 127, No. 6, pages 2009-2020, especially page 2010. | | | 1-12, 15-17 | | |
| A, P MONNIER, P., et al. RGM is a Repulsive Guidance Molecule for Retinal A September 2002, Vol. 419, pages 392-395. | | | for Retinal Axons. Nature. | 1-17 | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| 1 | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| Further documents are listed in the continuation of Box C. See patent family annex. See patent family annex. Interdocument published after the international filing date or price. | | | | | |
| Special categories of cited documents: "A" document defining the general state of the art which is not considered to be of particular relevance "E" earlier application or patent published on or after the international filing date | | date and not in conflict with the ap | | ation but cited to understand the | |
| | | • • | document of narticular relevance: the | ciple or theory underlying the invention Invent of particular relevance; the claimed invention cannot be | |
| | | considered novel or cannot be considered when the document is taken alone | | red to involve an inventive step | |
| "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified) | | "Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination | | | |
| "O" document referring to an oral disclosure, use, exhibition or other means | | | being obvious to a person skilled in th | | |
| "P" document published prior to the international filing date but later than the priority date claimed | | "&" document member of the same patent family | | | |
| Date of the actual completion of the international search | | Date of mailing of the international search-report 2 1 JUN 2004 | | | |
| 20 January 2004 (20.01.2004) | | | ed officer? | | |
| Name and mailing address of the ISA/US Mail Stop PCT, Atm: ISA/US | | Date of mailing of the international search report 2 1 JUN 2004 Anthorized officer Janet Antifes Rea Januarence 4 | | | |
| Commissioner for Patents | | | | | |
| P.O. Box 1450 Alexandria, Virginia 22313-1450 | | | e No. 703-308-0196 | | |
| Facsimile No. (703)305-3230 | | | | | |

Form PCT/ISA/210 (second sheet) (July 1998)